

# Argonne's Supercomputer Named World's Fastest for Open Science, Third Overall

ARGONNE, Ill. (June 17, 2008) – The U.S. Department of Energy's (DOE) Argonne National Laboratory's IBM Blue Gene/P high-performance computing system is now the fastest computer in the world for open science, according to the semiannual TOP500 List of the world's fastest computers.

The TOP500 List was announced today during the International Supercomputing Conference in Dresden, Germany.

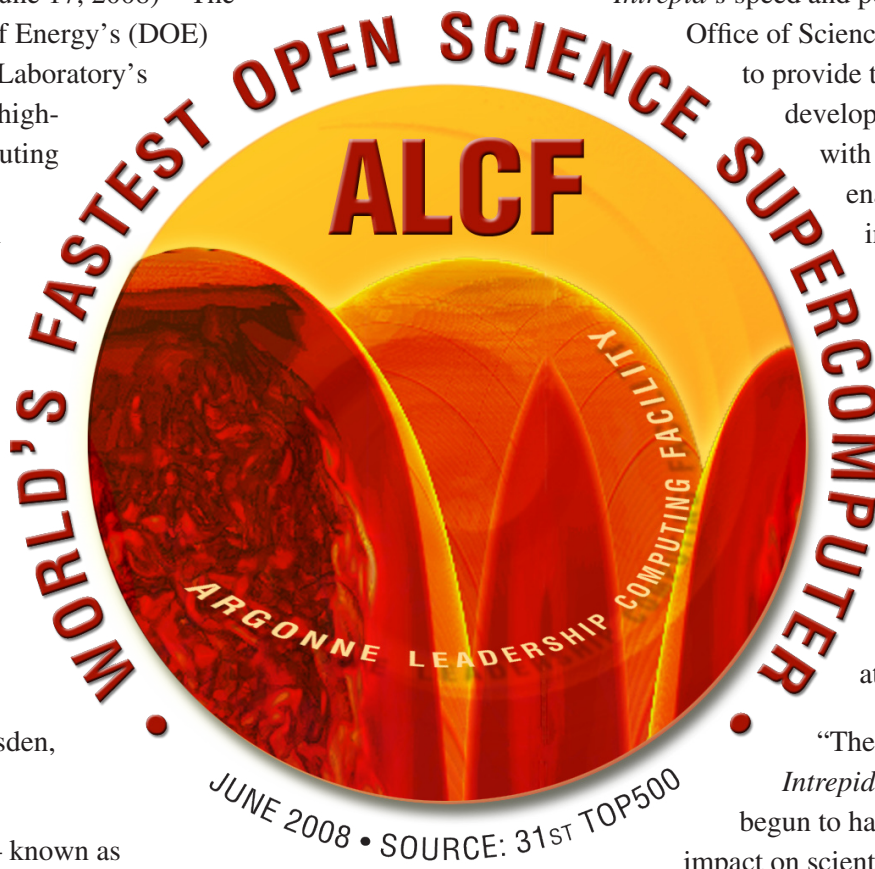
The Blue Gene/P – known as *Intrepid* and located at the Argonne Leadership Computing Facility (ALCF) – also ranked third fastest overall. Both rankings represent the first time an Argonne-based supercomputing system has ranked in the top five of the industry's definitive list of supercomputers.

The Blue Gene/P has a peak-performance of 557 trillion calculations per second. *Intrepid* achieved a speed of 450.3 Teraflops on the Linpack application used to measure speed for the TOP500 rankings.

"*Intrepid's* speed and power reflect the DOE Office of Science's determined effort to provide the research and development community with powerful tools that enable them to make innovative and high-impact science and engineering breakthroughs," said Rick Stevens, associate laboratory director for computing, environmental and life sciences at Argonne.

"The ALCF and *Intrepid* have only just begun to have a meaningful impact on scientific research,"

Stevens continued. "In addition, continued expansion of ALCF computing resources will not only be instrumental in addressing critical scientific research challenges related to climate change, energy, health and our basic understanding of the world, but in the future will transform and advance how science research and engineering experiments are conducted and attract social sciences research projects, as well."



“Scientists and society are already benefitting from ALCF resources,” said Peter Beckman, ALCF acting director. “For example, ALCF’s Blue Gene resources have allowed researchers to make major strides in evaluating the molecular and environmental features that may lead to the clinical diagnosis of Parkinson’s disease and Lewy body dementia, as well as to simulate materials and designs that are important to the safe and reliable use of nuclear energy plants.”

Eighty-percent of *Intrepid*’s computing time has been set aside for open science research through the DOE Office of Science’s (SC) highly select Innovative and Novel Computational Impact on Theory and Experiment (INCITE) program. There are currently 20 INCITE projects at the ALCF that

will use 111 million hours of computing time this year. SC’s Office of Advanced Scientific Computing Research provides high-level computer power focused on large-scale installation used by scientists and engineers in many disciplines.

The TOP500 List is compiled by Hans Meuer of the University of Mannheim in Germany, Jack Dongarra of the University of Tennessee and Oak Ridge National Laboratory, and Erich Strohmaier and Horst Simon of DOE’s National Energy Research Scientific Computing Center at Lawrence Berkeley National Laboratory. The list made its debut in June 1993 and ranked as No. 1 DOE’s Los Alamos National Laboratory’s Thinking Machine Corporation’s CM-5, with 1024 processors and a peak-performance of 131 gigaflops.

## About Argonne

Argonne National Laboratory brings the world’s brightest scientists and engineers together to find exciting and creative new solutions to pressing national problems in science and technology. The nation’s first national laboratory, Argonne conducts leading-edge basic and applied scientific research in virtually every scientific discipline. Argonne researchers work closely with researchers from hundreds of companies, universities and federal, state and municipal agencies to help them solve their specific problems, advance America’s scientific leadership and prepare the nation for a better future. With employees from more than 60 nations, Argonne is managed by UChicago Argonne, LLC for the U.S. Department of Energy’s Office of Science.

### On the front:

*Images from 2007-2008 INCITE studies of buoyancy-driven turbulent nuclear burning and Type Ia supernovae. Graphics courtesy of the DOE NNSA ASC/Alliance Flash Center at the University of Chicago from research results computed in part at the Argonne Leadership Computing Facility.*

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#### For more information about INCITE, go to:

<http://hpc.science.doe.gov>

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